REMARKS

Applicant appreciates the Examiner's thorough examination of the present application as evidenced by the Office Action. Applicant has carefully considered the references cited by the Office Action and submits that the claims are patentable in view of the above-amendments and for at least the reasons explained below. Accordingly, reconsideration and allowance is respectfully requested.

Status of Claims

Claims 1, 2, 4, and 10 stand rejected under 35 U.S.C. Sec. 103(a) as unpatentable over PCT App. WO 00/54479 to Renfer (Renfer) in view of U.S. Pat. No. 6,215,221 to Cabuz et al. (Cabuz). Claims 3 and 5-7 stand rejected under 35 U.S.C. Sec. 103(a) as unpatentable over Renfer in view of Cabuz and further in view of U.S. Pat. Publ. No. 2003/0050019 to Dowling et al (Dowling). Claims 8 and 9 stand rejected under 35 U.S.C. Sec. 103(a) as unpatentable over Renfer. Claims 11-13 are new.

Claim 1 is Patentable Over Renfer in view of Cabuz:

To establish a *prima facie* case of obviousness, the prior art reference or references when combined must teach or suggest all the recitations of the claims, and there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. M.P.E.P. §2143. A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. *KSR Int'l Co. v. Teleflex Inc.*, 550 U. S. 1, 15 (2007). A corollary principle is that, when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be unobvious. *Id.* at 12. When a §103 rejection is based upon a modification of a reference that destroys the intent, purpose or function of the invention disclosed in the primary reference, such a proposed modification is not proper and the prima facie case of obviousness cannot properly be made. *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984).

Claim 1 has been amended to recite, *inter alia*:

> 1. (Currently Amended) A terminal comprising:
>
> ...
>
> a data input interface comprising a keypad, which is extractable by a linear movement from a storage space inside said terminal body, wherein said keypad is

> disposed on a flexible film supported by a pulley comprising a retractor mechanism that is biased to retract said film into said storage space, wherein said terminal body comprises an activator mechanism that is configured to apply an electrical current through said film, wherein said film comprises a material which is configured to change from a flexible mode to a stiff mode responsive to application of the electric current to become stiff along a longitudinal extension thereof supporting the keypad to support typing on the keypad.

Applicant agrees with page 2 of the Office Action that found that Renfer does not disclose a terminal that includes "an activator mechanism that is configured to apply an electrical current through said film, wherein said film comprises a material which is configured to change from a flexible mode to a stiff mode responsive to application of the electric current."

However, the Office Action then contends on page 3 that Cabuz supplies the missing teachings. Applicant submits that it is improper to combine Cabuz teachings with that of Renfer to reject the pending claims. Moreover, Applicant submits that even if Cabuz is combined with Renfer, which Applicant again submits is improper, the combined references still would not teach or suggest all the recitations of Claim 1.

Cabuz is directed to "electrostatic/pneumatic actuators for active surfaces" of aircraft, including lightweight unmanned aerial vehicles (UAVs). (Cabuz title, and col. 1, lines 18-20). Cabuz describes that a actuator having an out-of-plane movable surface configured so that "flight can be controlled in a wide variety of manners as [aircraft wing] surfaces change [in the manner described, and] for the first time, active surface control for flight surfaces has been achieved". Applicant submits that a person skilled in the art would not look to the non-analogous field of controlling the shape of aircraft flight surfaces (wings) to identify solutions for stiffening a flexible film keypad that can be extended from and retracted into a terminal. Applicant therefore submits that is improper to combine Cabuz with Renfer to reject Claim 1.

Morever, Applicant submits that even if combined, Renfer and Cabuz do not teach or suggest each and every recitation of Claim 1. Cabuz describes an "actuator for controlling the ***shape*** of active surfaces." (Cabuz, Col. 2, lines 57-58, emphasis added). Cabuz further describes that the actuator operates by using electrostatic forces to displace the location of bubbles (filled with air or fluid) within the actuator surface. Cabuz's actuator which moves the location of bubbles contained therein is shown in FIGS. 2A-C and FIGS. 4A-C below:

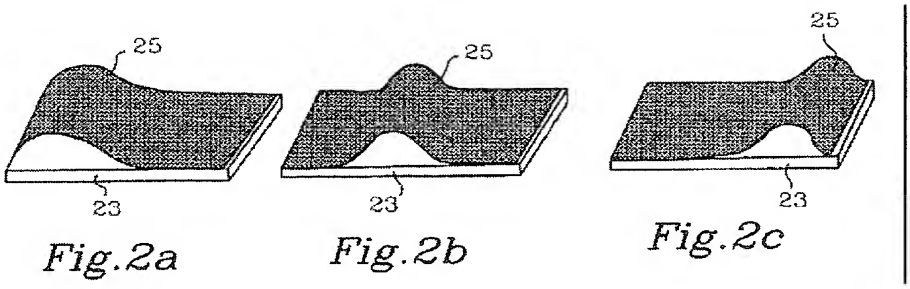

Fig.2a Fig.2b Fig.2c

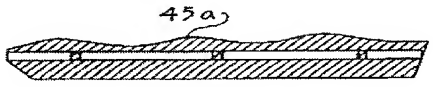

Fig.4a

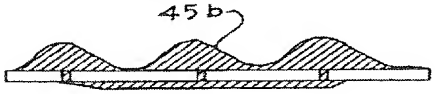

Fig.4b

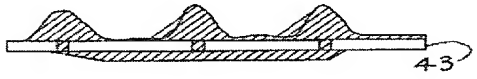

Fig.4c

Referring to Cabuz's FIGS. 2A-C and FIGS. 4A-C above, Cabuz describes that electrostatic forces are used to cause the actuator surface to "be buckled or otherwise [have] out of plane [upward movement by changing] the location of the bubble or cavity, changing overall shape of the envelope defined by" the actuator surface.

Consequently, Cabuz is concerned with and describes an actuator that has *very localized out of plane (up/down bulge) movements*, shown in the vertical direction in the above figures. Although the localized areas of the actuator containing the bubbles may become more/less stiff responsive to electrostatic forces (to shift the location of the bubbles and associated protrusions), these localized areas would necessarily be small because the bubbles are contained in the thin actuator surface. Cabuz is not concerned with and does not describe or suggest that the actuator can be selectively controlled between being stiff and flexible and, much less, does not describe or suggest that the actuator is configured to support a keypad (or another user interface) or that the actuator can be electrically controlled to become stiff along a longitudinal extension thereof supporting a keypad to support typing on the keypad.

Therefore, the invention as recited in Claim 1 is not a predictable use of prior art elements according to their established functions because there is no reason to modify Renfer and Cabuz as proposed by the Office Action absent impermissible hindsight.

Applicant therefore submits that it is improper to combine Renfer and Cabuz to reject Claim 1, and further submit that even if combined these references do not describe or suggest each and every recitation of Claim 1. Reconsideration and allowance of Claim 1 is therefore requested.

Dependent Claims 2-7 are submitted to be patentable at least per the patentability of Claim 1 from which they depend. Moreover, Applicant submits that the dependent claims provide independent bases for at least the reasons explained below

Dependent Claim 5 is Independently Patentable Over Renfer in view of Cabuz and Dowling:

Claim 5 recites:

> 5. (Previously Presented) The terminal as recited in claim 1, further comprising a detector mechanism that is configured to detect when said film has been extracted from said storage space to a fully extracted position and to respond to that detection by causing said activator mechanism to apply an electrical current through said film.

In rejecting Claim 5, the Office Action concedes that Renfer and Cabuz do not disclose the recitations of Claim 5. However, the Office Action contends on page 5 that Dowling's paragraphs 15, 45, and 49 disclose the claimed detector mechanism. However, the cited paragraphs describe that a "flexible-retractable peripheral" is coupled to a processor in response to being extended. Applicant agrees with the Office Action that Dowling does not describe a detector that responds to detection of a film reaching a fully extracted position by causing an electrical current to be applied to cause a film to become stiff along an extension thereof supporting a keypad to support typing on the keypad. Moreover, Applicant submits that, as described above, Cabuz is concerned with and describes an actuator that provides very localized areas of out of plane movement (in illustrated vertical direction), not longitudinal stiff along an extension thereof supporting a keypad to support typing on the keypad.

Therefore, the invention as recited in Claim 5 is not a predictable use of prior art elements according to their established functions because there is no reason to modify Renfer, Cabuz, and Dowling as proposed by the Office Action absent impermissible hindsight. Applicant therefore submits that these references, when combined, do not describe or suggest each and every recitation of Claim 5. Moreover, Applicant submits that is improper to

combine Renfer, Cabuz, and Dowling to reject Claim 5 for at least the reasons explained above for Claim 1. Reconsideration and allowance of Claim 5 is therefore requested.

Dependent Claim 7 is Independently Patentable Over Renfer in view of Cabuz and Dowling:

Claim 7 recites:

> 7. (Previously Presented) The terminal as recited in claim 5, wherein said detector mechanism is configured to detect when a pulling force is applied on said film when the film is located in said fully extracted position, whereupon said detector mechanism causes said activator mechanism to stop applying the electric current to said film.

The Office Action has provided essentially the same reasons for rejecting Claim 7 as provided for Claim 5. However, neither the cited paragraphs 15, 45, and 49 nor elsewhere does Dowling describe or suggest a mechanism that detects when a pulling force is applied to a film that is fully extracted, or that causes a response to such detection. Moreover, Applicant submits that Dowling, Renfer, and Cabuz if combined do not teach or suggest a detector mechanism that is configured to detect when a pulling force is applied to a film that is in a fully extracted position or, that in response thereto, causes an activator mechanism to stop applying an electric current to a film so that the film becomes flexible and can be retracted within a terminal.

The invention as recited in Claim 7 is not a predictable use of prior art elements according to their established functions because there is no reason to modify Renfer, Cabuz, and Dowling as proposed by the Office Action absent impermissible hindsight. Applicant therefore submits that these references, when combined, do not describe or suggest each and every recitation of Claim 7. Moreover, Applicant submits that is improper to combine Renfer, Cabuz, and Dowling to reject Claim 7 for at least the reasons explained above for Claim 1. Reconsideration and allowance of Claim 7 is therefore requested.

Independent Claim 8 is Patentable Over Renfer:

Claim 8 has been amended to clarify that the flexible film is curved with a shallow U-shape in a cross-section transverse the longitudinal extension of the film when extracted from said storage space and the film maintains the cross-sectional shallow U-shape to automatically maintain a straight longitudinal extension shape outside said storage space of the terminal body.

Applicant agrees with the Office Action that Renfer does not teach that it's flexible film is curved with a shallow U-shape in a cross-section transverse the longitudinal extension of the film. Consequently, Renfer cannot teach or suggest that a flexible film maintains a cross-sectional shallow U-shape to automatically maintain a *straight longitudinal extension shape* when it is extracted from a terminal body. For at least these reasons, Applicant submits that Claim 8 is patentable over Renfer.

New Independent Claim 11 is Patentable Over Renfer in view of Cabuz and Dowling:

New independent claim 11 contain similar recitations to Claim 5, and recites, inter alia:

> 11. (New) A terminal comprising:
> ...
> a data input interface comprising a keypad, which is extractable by a linear movement from a storage space inside said terminal body, wherein said keypad is disposed on a flexible film supported by a pulley comprising a retractor mechanism that is biased to retract said film into said storage space, wherein said terminal body comprises an activator mechanism that is configured to apply an electrical current through said film, wherein said film comprises a material which is configured to change from a flexible mode to a stiff mode responsive to application of the electric current to become stiff along a longitudinal extension thereof supporting the keypad to support typing on the keypad; and
> a detector mechanism that is configured to detect when said film has been extracted from said storage space to a fully extracted position and to respond to that detection by causing said activator mechanism to apply an electrical current through said film.

Claim 11 is therefore submitted to be patentable over Renfer in view of Cabuz and Dowling for at least the reasons explained above for independent Claim 1 and for the further reasons explained above for Claim 5.

New dependent Claims 12 and 13 are similar to previously presented dependent Claims 7 and 6, respectively, and are submitted to be patentable over Renfer in view of Cabuz and Dowling for at least the reasons explained above.

CONCLUSION

Applicant requests reconsideration and withdrawal of the rejections of the claims for at least the reasons discussed above. Applicant further submits that the claims are in condition for allowance, which is respectfully requested. Applicant encourages the Examiner to contact the undersigned by telephone at (919) 854-1400 to resolve any remaining issues.

Respectfully submitted,

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CERTIFICATION OF TRANSMISSION

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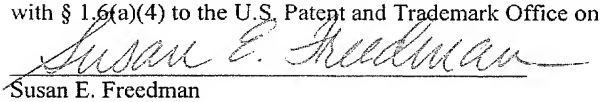

Susan E. Freedman
Date of Signature: November 7, 2007